DOCUMENT RESUME

ED 147 894 CS 501 919

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TITLE Developing Data Analytic Activities for the Interpersonal Classroom: The Modified Values Auction.
PUB DATE 77
NOTE 22p.; Paper presented at the Annual Meeting of the Speech Communication Association (63rd, Washington, D.C., December 1-4, 1977)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Classroom Games; College Students; Educational Research; Interpersonal Relationship; *Measurement Techniques; *Personal Values; Speech Communication; Statistical Analysis; Values

ABSTRACT

This article describes the Modified Values Auction, a data-analytic classroom game. The game follows the paradigm of an auction and is designed to generate data on human values that are amenable to empirical analysis. An analysis of actual data from 54 undergraduate students is presented and research applications are suggested. (Author/AA)

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Developing Data Analytic Activities for the Interpersonal Classroom: The Modified Values Auction

by

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Abstract

This article describes the Modified Values Auction, a data analytic classroom game. The game follows the paradigm of an auction and is designed to generate data on human values that are amenable to elementary empirical analysis. An analysis of actual classroom data is presented and research applications are suggested.

Presented to the Instructional Development Division of the 1977 Speech Communication Association Convention, Washington D.C.

CS501919

The Modified Values Auction:

A Data Analytic Classroom Game

Values are recognized as important in all human relationships because they underlie and often determine social behavior (Bales, 1970, p. 163; Simon, Howe, and Kirschenbaum, 1972, p. 13; DeVito, 1976, p. 416; and Brooks and Emmert, 1976, p. 48). Indeed, Jacob (1957) defines values as "those standards for decision making which are normally identifiable from verbal statement or overt conduct." Rokeach (1968) contends that "having a value means that one consistently believes in and prefers a behavior, goal, or end state." Values are learned, and once internalized, they become the criteria by which one "justifies action, develops and maintains attitudes 'toward relevant objects and situations,' exercises moral judgment, and compares him/herself with others" (Rokeach, 1968 as cited by Brawer, 1973, p. 142). Rogers (1969) and Bales (1970) hold that a person's values are considerably responsible for one's self concept or self picture. In short, values determine and formulate our self concept and the conception others have of us. Consequently, it is not surprising that a number of classroom games, simulations, and group activities have been devised to make students more aware of the importance of values, their own value structures, and the values held by others. Unfortunately, most of these instructional activities (See Pfeiffer & Jones, 1973, pp. 45-47; and Simon, Howe, and Kirschenbaum, 1972, for example) fail to go beyond the discussion stage. Students are typically presented with some hypothetical dilemma or crisis and asked to make decisions and/or justifications for their decisions. Ensuing verbal exchanges are believed to help clarify the operative values both between and among the participants.

Such approaches are open to Fletcher's (1971, 426) criticism concerning the "absence of any mechanism by which a participant could learn what the designers claim he should." Games and simulations whose primary mechanism of learning hinges on the "quality of discussion" are laudably humanistic and frequently interesting but very often overly dependent upon the perceptual and intuitive talents of the participants and/or the instructor. Such value activities typically lead to the general observation that variations in value systems are "a function of antecedent cultural and social experience, on the one hand, and personality factors on the other" (Rokeach and Parker, 1970).

By adapting elementary data analytic techniques to a humanistic values game, it is possible to move beyond discussion and intuition into the realm of social science. A social scientific approach, of course, capitalizes on intuition but additionally provides information that is explicit and objective and therefore more powerful than intuition alone. The objectification of an essentially subjective psychological phenomenon, that is, values, holds greater explanatory and predictive power than the general insights afforded by the typical classroom discussion. The modified values auction is designed to generate data on student values that is amenable to elementary empirical analysis. Empirical data analysis constitutes the unique learning mechanism in this paradigm. Additionally, this game holds heuristic merit as an unobtrusive measure of values which, when tapped, can provide useful information for research on social decisions and relationships. The balance of this article details a modified classroom values game, reports upon three levels of analysis employing actual classroom data, and offers suggestions for utilizing values data in social research.

The Modified Values Auction

The game follows the paradigm of an auction and requires an auctioneer,

bookkeepers, buyers and currency, and, of course, items for purchase. The instructor may serve as the auctioneer, and one or more students may help keep records. As accurate records are vital for subsequent data analysis, the bookkeeper's task is to record each bid. Other class members assume the role of buyers.

Each student will need to determine his/her currency, that is, how many units he/she can expend in securing as many desirable items as possible. As people are seldom equal in assets and resources, the procedure for determining currency is designed to take some of these differences into account. Table 1 presents instructions for determining currency. Essentially, currency is life

Table 1 about here

units, that is, projected months of life. Consequently the probability of securing that which is desired is to some degree maximized or minimized by tying currency to actuarial expectancies. During the auction, a person may not expend more units than he/she possesses. The objects for purchase (values) are to be determined prior to the auction. Two approaches to identifying values are presented here.

One may simply borrow from the work of Rokeach (1968) and Brawer (1973) in which they list sets of terminal and instrumental values. Terminal values are statements holding face validity as representatives of some desired end state, for example, to be happy, free, experience true friendship, an exciting life, etc. Instrumental values are characteristic of personal qualities thought to be helpful in securing a desired end state, for example, to be ambitious, broadminded, responsible, competent, etc. A second approach is to have students simply generate lists of those traits, end states, and/or qualities they value. Since a "general classification of values has predictive power only to the extent that the values listed occur with a high degree of frequency in a given population" (Minnick, 1968, p. 216), it is important to

TABLE 1

Determining Currency

1	Males subtract your age from 69 Females subtract your age from 72
2	Both males and females: a If you smoke, subtract 5 more b If you are more than 20 pounds overweight, subtract 3 more
3	Determine your adjusted total and multiply that figure by 12; the result is your currency.

classify student generated values by frequency and auction those most frequently cited. One merit of simply borrowing from the work of Rokeach (1968) and Brawer (1973) is that they have already identified and classified the values commonly cited by students.

After the values for sale are established, each student must privately rank order the values and record beside each a projected opening and terminal bid. Once the private projections are recorded, the auction may proceed by randomly selecting an item and taking bids. Of course, as with all auctions, the bidder tries to secure his/her desire at the lowest possible price. The game requires about one minute per value to play and usually generates considerable data with ten or fifteen values.[1]

Discussion and Introduction to Analysis Techniques

When the auction is complete, value structures can be examined and analyzed in a variety of ways, some more obvious than others. On an intuitive level, each buyer is able to observe both what values elicited bids, the magnitude and frequency of the bids, and the nature of his/her bidding pattern vis a vis other bidders. In short, biddings and expenditures can be used to identify, to some extent, the centrality of one's value orientation given any set of value statements.

The game, however, does not necessarily provide a pure index of one's true values for several reasons. First, it is unlikely that every conceivable value will be included or appropriately phrased. Thus, one's exact value structure may not be tapped. Second, and probably more important, some people have greater currency and are able to obtain more values. Consequently, they may appear to have a more complete or complex value structure than someone with fewer expendable assets. Third, a kind of group pressure may be operative that forces one into claiming a value at either greater or lesser cost than

warranted by its real centrality in an individual's value complex. In one instance, the only black in a group reported feeling pressure to secure the item representing the equality value. Although many students admitted wanting the value, some were reluctant to bid as they felt the black woman should both want it and have it. A few others, however, kept outbidding her, not due to a real desire to secure the value, but rather as a strategy to gain information about her commitment. In another instance, several students, all members of social fraternities, executed a bidding war over who valued friendship most. Individual and small group strategms evident during the bidding are frequently interesting and often well suited to discussion for they characterize unique collections of individuals.

On another level, the value structures of sub-groups can be identified. As bidding goes up and large volume participation decreases, the hard core bidders are in effect identifying themselves as members of a group with a particular value orientation. For example, women who see themselves as "more liberated" tend to bid higher as a group on some items than on others. Bidding patterns can be observed and explored as cues to individuals with common orientations.

To achieve statistical precision, the frequency of bids and the mean purchase price for values can be rank ordered and a hierarchy of values thereby constructed by cross multiplying frequency by the mean bid on any given value. From bidding and purchase records, buyers can determine the extent to which their value structure is similar to or different from that of the group as a whole and/or other sub-groups. Individual expenditures or anticipated expenditures privately recorded prior to the bidding can be converted into proportions and the proportions employed as an index to both the particular value's appeal and the extent of valuing similarity across bidders. Individuals may also note the point at which they drop out of the bidding. By converting

the last bid into a proportion, an index which is revealing about the particular bidders can be constructed. If, for example, Mary stops bidding on love at 480 and she had a total of 560 currency units, while Joe buys love at 500 and he had 510, we can see that Joe expended 98% of his resources while Mary offered only 85% of hers. Consequently, all other things being equal, Joe valued love 13% more than Mary. In the same way, a person with fewer expendable resources can demonstrate a stronger desire for a particular value than someone who is currency rich. Suppose, for example, an older male student has only 468 currency units and a younger female has 648. Suppose further that he offers all he has for success, but she buys it with a bid of 469. In this instance, the male valued success for all he was worth, but his younger competitor bought it by expending only 72% of her assets, although she may have been willing to spend more. Thus, it is possible to construct a value hierarchy among bidders regardless of who gets the value and at what cost.

While the resulting value hierarchy will reveal statistical differences on a single value, the statistical differences may not be truly representative of real differences in value orientation. The number of values to be auctioned and the complexity of an individual's value system, as well as the currency resources available, constitute important facets in how one expends currency which is the measure of valuing. The statistical hierarchy, however, assumes that most of these considerations are equal. Thus, individuals who value several items equally may appear to be no different than those who desire only one item. The net result is that as analysis moves from the group to the individual level, increased precision on a single value appears to be gain but insight into the individual's value system tends to be obscured.

An Analysis of Values Data

A group of fifty-four undergraduate students participated in an auction of the values presented in Table 2.[2] The resulting data were analyzed in

Table 2 about here

three respects: (1) for the group as a whole, (2) for business and non-business students (two sub-groups), and (3) for the individual class members. The analysis and results are presented below.

By employing the procedure previously detailed we can construct a composite picture of the values held by the entire group. A frequency record of the number of bids from the participants provides a measure of how wide spread or well shared the value is. The sum of all the offered bids for any value can be averaged. The higher the average, the more highly regarded the value is presumed to be. Lastly, by multiplying the frequency of bids by the currency unit average we create a weighted index that is amenable to rank ordering. In short, this rank order procedure serves to identify values in terms of both the degree to which they are shared and the extent to which they are esteemed. Table 3 presents the data set for a group of students studying interpersonal communication. The composite ranking (right most

Table 3 about here

column) indicates that love, happiness, health, and friends are the most highly regarded values for this group.

A second technique for examining the value structure of the group involves a graphic display. Values are listed in rank order on the ordinate while the currency units are located on the abscissa. For each value, the opening and purchasing bids are recorded, along with every bid in between. The first and last bid serve to mark the end points of a line and every intervening bid can

TABLE 2

Terminal Values and Statements: A Sample

Value	Represented by:
Truth & honesty	To be and receive from others honest and truthful dealings in all your affairs
Personal happiness	To be personally happy and content throughout your life
Friends	To be and have many close and meaningful friendships
Health	To live a long life that is physically and mentally the picture of health
Love	To have a loving, intimate relationship with some significant other
Education	To be highly educated, knowledgeable, and wise
Freedom	To be free from authority, prejudice, and/or power held by others in order to do and become what you choose
Religion	To experience a meaningful and personal relationship with God
Domestic tranquility	To experience a peaceful and harmonious family life
Fame	To be known, respected, and admired by many people
Success	To be successful and prosperous in your work/profession
Wealth	To be very wealthy and financially independent
Nature/ Environment	To appreciate, partake in, and preserve the natural environment of our Earth

TABLE 3

Values Structure in an Auction Among Undergraduates

Value	BF[1]	Ranked	MoB[2]	MoB Ranked	BF x MoB	BF x MoB Ranked
Truth & honesty	11	6	335.9	6	3694.	6
Happiness	22	1	242.0	9	5324.	2
Friends	8	8	551.5	2	4412.	4
Health	15	4	314.6	7	4719.	3
Love	18	3	346.7	5	6240.	1
Education	6	11	235.0	10	2350.	11
Freedom	7	9.5	115.7	13	809.	13
Religion	13	5	267.7	8	3480.	8
Domestic Tranquility	10	7	410.8	3	4108.	5
Fame	21	2	169.5	12	3559.	7
Success	7	9.5	400.0	4	2800.	9
Wealth	4	13	596.0	1	2384.	10
Nature	5	12	190.0	11	950.	12

[1]BF = Bid Frequency
[2]MoB = Mean of Bids

10

be placed on that line. The result, a visual display of the bidding pattern for each value, is depicted in Figure 1.

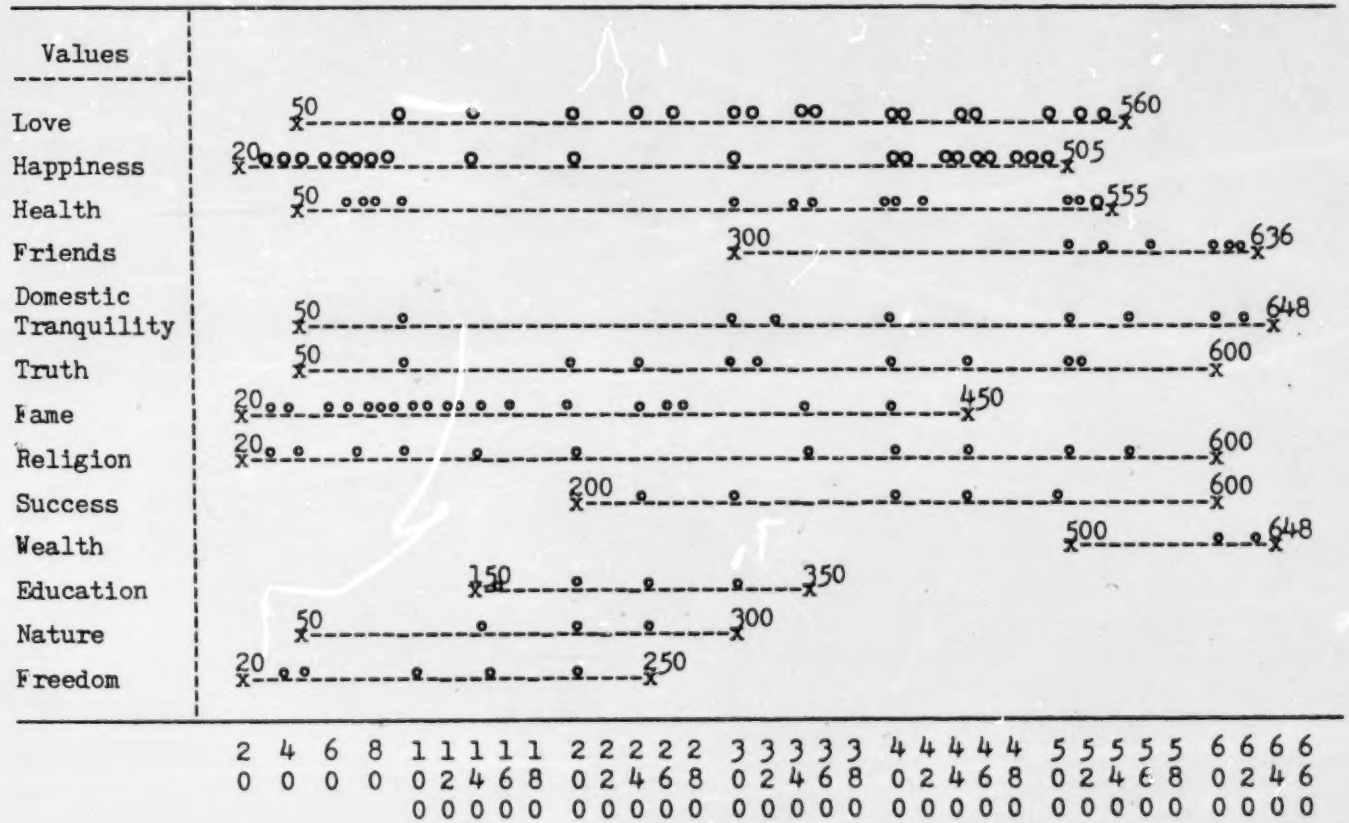
Figure 1 about here

While several bidding lines are highly similar, some are not. The line for wealth, for example, does not overlap with the lines for education, nature, or freedom which do overlap with one another. Due to the complexity of individual value orientations, strategems at work, and the dynamics that transpire during the game, it is difficult to identify exact reasons for these differences. One implication suggested by the bidding patterns and confirmed by post-auction discussion is that the participants often place a bid as a combined function of the value's importance to them and their perception of its probable importance to others. The opening bidder on wealth, for example, indicated that he valued wealth and he knew many others did too. Consequently, he hoped to discourage participation by starting the bidding very high. A high opening bid, he reasoned, would suggest that he was a very serious purchaser. In the case of happiness, the early bidding was quite low because bidders did not wish to seem too eager. Additionally, some of the early bidders were concerned that a high opening bid would tend to suggest that they were presently unhappy. In short, their bid was a partial function of their desire not to be perceived as one responding to a personal value deprivation or deficiency.

Examination and discussion of the bidding pattern for the values fame and success was also revealing. Note that the bids for fame started small and increased in rather small jumps (mean increase = 21.5 units). The pattern for success was more substantial (mean increase = 66.6 units) and the opening bid on success was considerably higher than that for fame (200 versus 20). Students reported that to place large bids on fame, that is, a big opener

FIGURE 1

Graphic Display of Bidding Pattern in a Terminal Values Auction Among Undergraduates*



*o signifies a bid

followed by good sized increments, might suggest that the bidders were "ego maniacs." Consequently, they offered small openers and diminished increments. Success, however, was considered more widely accepted and shared as a goal; thus, there was no reservation about a fair sized opening bid and reasonably substantial increases.

A figure of this nature can be helpful in analyzing the strategies at work during the auction. Additionally, however, the figure is helpful in exploring sub-group differences. By creating sub-groups (along whatever organizing principle seems interesting, e.g., sex, age, political attitudes, religious orientation, etc.) and then averaging the sub-group members' privately recorded opening and terminal bids and casting these against the graph, we can see not only the difference in value orientation between groups, but further how they compare with the pattern on each value for the actual auction. A partial illustration is offered below.

Four students in the group that participated in this auction were majoring in business. Their opening and terminal bids for the value wealth were averaged and compared with the average for all other students. The average opening and terminal bids for business students was 481 and 575 respectively. The others, on the average, were prepared to offer an opening bid of 130 and go as high as 436. We can plot these two newly defined lines against the actual line for wealth in Figure 1 and observe just how different they are from one another and the actual bidding.

A proportional analysis technique may be applied on an individual level. Table 4 displays the privately recorded opening and terminal bids, the respective currency totals, and the proportions appropriate to initial and terminal bids for the four business students previously noted and two students who did not value wealth.

Table 4 about here

Historically, positive and rewarding interpersonal relationships have been thought to be "primarily based on commonalities of attitudes, values, and beliefs" (Cushman & Craig, 1976). Thus, we might be tempted to speculate that students two and four would probably have a stronger relationship than any other two person combination because they are most similar in their view of wealth. Actually, predicting relationships seldom hinges upon any single value or variable. But, to the extent that people have similar value systems, it is reasonable to anticipate that they will respond positively to one another. Similarly, one might anticipate that students five and six would have a better or more rewarding interpersonal relationship with each other than with any other person represented in the Table. Of course, in a larger sense, it seems likely that students one through four have more in common, at least in their view of wealth (as well as their major subject), and therefore, probably constitute a more harmonious group than any other four person combination. By identifying strong similarities across several values and a number of individuals, we can create groups or, perhaps more accurately, identify groups with common orientations. One potentially interesting follow-up exploration to groups identified by value similarities is to tabulate ancillary demographic data (e.g., age, sex, socioeconomic status, major, political views, etc.) and try to create a profile which seems to correlate with and may help to predict differing orientations. Such data may provide additional insight into the role values play in the formation of social relationships.

Conclusion

The modified values auction can be employed to help us become more aware

TABLE 4

Proportional Analysis for Six Students on the Value Wealth

Student	Opening Bid	Terminal Bid	Currency Total	Opening Bid Proportion	Terminal Bid Proportion
1	450	612	612	.735	1.00
2	500	575	612	.817	.939
3	500	564	564	.886	1.00
4	475	550	588	.807	.935
5	20	50	648	.031	.077
6	100	250	636	.157	.391

of our values and those of others. It provides an entertaining and instructive approach to explicitly measuring and exploring abstract qualities that have social import. The generated data may be analyzed on three different levels: group, sub-group, and individual. Importantly, the modified values auction provides an explicit mechanism through which participants can learn about human values. This game is interesting and exciting to play, generates a wealth of information, and is suggestive about the underlying structure of human relationships.

Beyond immediate pedagogical utility, data from the modified values auction may provide a foundation for social research into the role(s) values play in social decisions and group processes. Individuals with particular value orientations that have been identified through the auction may be structured into groups and given a task requiring a decision. Although values have been historically recognized as important, they have exerted relatively undetermined impact in experimental social research. Data generated through the auction may prove to be a vital variable in explaining and predicting group outcomes. Similarly, values information may become a helpful predictor of interpersonal relationships. Watzlawick, Beavin, and Jackson (1967, p.70) maintain that "all communicational interchanges are either symmetrical or complementary, depending on whether they are based on equality or difference." If so, to what extent do differences and/or similarities in values account for the formation of particular types of interpersonal relationships, such as friends, lovers, or enemies? Overall, the modified values auction holds promise as both an instructional classroom tool and as a research vehicle for improving our understanding of how values operate within and upon social behavior.

NOTES

[1]Other variations of this game involve insuring that each participant begins with equal currency, utilization of a system of sealed bids, and permitting buyers to form collectives and pool their currency resources prior to bidding.

[2]The values were generated by the students prior to the auction.

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